

# Conduction w/ 2 layers

- Find  $H=Q/t$  in J/s

→ Key Point: Continuity (just like fluid flow)

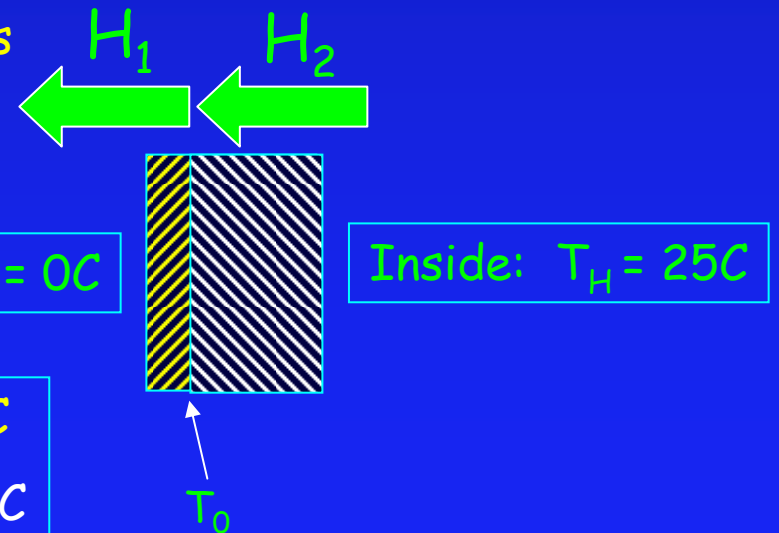
»  $H_1 = H_2$

»  $\kappa_1 A (T_0 - T_C) / \Delta x_1 = \kappa_2 A (T_H - T_0) / \Delta x_2$

» solve for  $T_0 =$  temp. at junction

» then solve for  $H_1$  or  $H_2$

■ answers:  $T_0 = 2.27\text{ C}$   $H = 318\text{ Watts}$



$\Delta x_1 = 0.02\text{ m}$   $A_1 = 35\text{ m}^2$   $\kappa_1 = 0.080\text{ J/s-m-C}$

$\Delta x_2 = 0.075\text{ m}$   $A_2 = 35\text{ m}^2$   $\kappa_2 = 0.030\text{ J/s-m-C}$